

AMENDMENTS TO THE CLAIMS

1. (Currently amended) A system for pumping multiphase fluids, the system comprising:
 - a compressor that is constructed and arranged to receive gas from a gas source selected from the group consisting of lift gas, export gas, ~~high pressure steam~~ and underground steam and compress the gas to provide a HP gas supply having a pressure in the range 50-150 bar;
 - a cyclone-type phase separator that is connected to receive a LP multiphase fluid, and is constructed and arranged to separate a LP gas phase and a LP liquid phase from the LP multiphase fluid;
 - a knock-out vessel for removing retained liquid from the separated LP gas phase, having an inlet connected to receive the LP gas phase from the phase separator, a LP gas outlet and a LP liquid outlet;
 - a gas-gas jet pump having a LP inlet connected to receive the LP gas phase from the knock-out vessel, a HP inlet connected to receive a HP gas supply from the compressor, and an outlet for providing outlet gas at a pressure higher than that of the LP gas phase; and
 - a liquid pump comprising a positive displacement pump having a LP inlet connected to receive the LP liquid phases from the phase separator and the knock-out vessel, and an outlet for providing outlet liquid at a pressure higher than that of the LP liquid phases.
2. (Previously presented) The system according to claim 1, wherein the compressor provides a supply of lift gas or export gas.
3. (Canceled)
4. (Canceled)

5. (Previously presented) The system according to claim 1, wherein the HP gas supply has a pressure at least twice that of the LP gas phase.
6. (Previously presented) The system according to claim 1, wherein the gas-gas jet pump has an outlet pressure in the range 1.1 to 3.0 times the pressure of the LP multiphase fluid.
7. (Canceled)
8. (Canceled)
9. (Previously presented) The system according to claim 1, wherein the liquid pump has an outlet pressure similar to that of the gas-gas jet pump.
10. (Canceled)
11. (Canceled)
12. (Canceled)
13. (Canceled)
14. (Canceled)
15. (Canceled)
16. (Canceled)
17. (Canceled)
18. (Previously presented) The system according to claim 1, further comprising a mixing device connected to the outlets of the jet pump and the liquid pump, for combining the outlet gas and the outlet liquid and providing a combined multiphase outlet fluid at a pressure higher than that of the LP multiphase fluid.
19. (Previously presented) The system according to claim 18, wherein the mixing device is a commingler.

20. (Previously presented) The system according to claim 18, wherein the combined multiphase outlet fluid has an outlet pressure in the range 1.1 to 3.0 times that of the LP liquid phase.
21. (Previously presented) The system according to claim 18, wherein the multiphase fluid is a petroleum gas/oil mixture.
22. (Previously presented) The system according to claim 21, wherein the gas/liquid ratio of the petroleum gas/oil mixture is in the range 9 to 49 at the operating pressure and temperature.
23. (Currently amended) A process for pumping multiphase fluids, the process comprising:
 - receiving gas from a gas source selected from the group consisting of lift gas, export gas, ~~high-pressure steam~~ and underground steam and compressing the gas by means of a compressor to provide a HP gas supply having a pressure in the range 50-150 bar;
 - separating a LP multiphase fluid into a LP gas phase and a LP liquid phase using a cyclone-type phase separator;
 - removing retained liquid from the separated LP gas phase using a knock-out vessel;
 - increasing the pressure of the LP gas phase using a gas-gas jet pump, by supplying a HP gas supply from the compressor to a HP inlet of the jet pump and supplying the LP gas phase from the knock-out vessel to a LP inlet of the jet pump; and
 - increasing the pressure of the LP liquid phases from the phase separator and the knock-out vessel using a positive displacement pump.
24. (Previously presented) The process according to claim 23, wherein the compressor provides a supply of lift gas.
25. (Previously presented) The process according to claim 23, wherein the compressor provides a supply of export gas.

26. (Previously presented) The process according to claim 23, wherein the HP gas source supply has a pressure at least twice that of the LP gas phase.
27. (Previously presented) The process according to claim 23, wherein the gas-gas jet pump has an outlet pressure in the range 1.1 to 3.0 times the pressure of the LP multiphase fluid.
28. (Canceled)
29. (Previously presented) The process according to claim 23, wherein the liquid pump has an outlet pressure in the range 1.1 to 3.0 times the pressure of the LP multiphase fluid.
30. (Canceled)
31. (Canceled)
32. (Canceled)
33. (Canceled)
34. (Canceled)
35. (Canceled)
36. (Canceled)
37. (Canceled)
38. (Previously presented) The process according to claim 23, further comprising mixing the increased pressure gas and liquid phases to provide a combined multiphase fluid at a pressure higher than that of the LP multiphase fluid.
39. (Previously presented) The process according to claim 38, wherein increased pressure gas and liquid phases are mixed in a commingler.
40. (Previously presented) The process according to claim 38, wherein the combined multiphase outlet fluid has an outlet pressure in the range 1.1 to 3.0 times that of the LP multiphase fluid.

41. (Previously presented) The process according to claim 38, wherein the multiphase fluid is a petroleum gas/oil mixture.
42. (Previously presented) The process according to claim 41, wherein the gas/liquid ratio of the petroleum gas/oil mixture is in the range 9 to 49 at the operating pressure and temperatures.
43. (Currently amended) A system for pumping multiphase fluids, the system comprising:
 - a compressor that is constructed and arranged to receive gas from a gas source selected from the group consisting of lift gas, export gas, ~~high-pressure steam~~ and underground steam and compress the gas to provide a HP gas supply having a pressure in the range 50-150 bar;
 - a cyclone-type phase separator that is connected to receive a LP multiphase fluid, and is constructed and arranged to separate a LP gas phase and a LP liquid phase from the LP multiphase fluid;
 - a knock-out vessel for removing retained liquid from the separated LP gas phase, having an inlet connected to receive the LP gas phase from the phase separator, a LP gas outlet and a LP liquid outlet;
 - a gas-gas jet pump having a LP inlet connected to receive the LP gas phase from the knock-out vessel, a HP inlet connected to receive a HP gas supply from the compressor, and an outlet for providing outlet gas at a pressure higher than that of the LP gas phase;
 - a commingler connected to receive and combine the LP liquid phases from the cyclone-type phase separator and the knock-out vessel, and having an outlet for the combined LP liquid phases; and
 - a liquid pump comprising a positive displacement pump having a LP inlet connected to receive the combined LP liquid phases from the commingler, and an outlet for providing outlet liquid at a pressure higher than that of the LP liquid phases.

44. (Currently amended) A process for pumping multiphase fluids, the process comprising:

- receiving gas from a gas source selected from the group consisting of lift gas, export gas, high-pressure steam and underground steam and compressing the gas by means of a compressor to provide a HP gas supply having a pressure in the range 50-150 bar;
- separating a LP multiphase fluid into a LP gas phase and a LP liquid phase using a cyclone-type phase separator;
- removing retained liquid from the separated LP gas phase using a knock-out vessel;
- increasing the pressure of the LP gas phase using a gas-gas jet pump, by supplying a HP gas supply from the compressor to a HP inlet of the jet pump and supplying the LP gas phase from the knock-out vessel to a LP inlet of the jet pump;
- combining the LP liquid phases from the cyclone-type phase separator and the knock-out vessel in a commingler;
- and increasing the pressure of the combined LP liquid phases using a positive displacement pump.